

REMARKS

The applicants and the undersigned thank Examiner Phan for the Examiner's Interview which took place on September 2, 2005. At the Interview, the applicants were able to demonstrate a commercial product which utilizes the features of the invention, and were able to show in the drawing figures and specification as originally filed how the claimed invention was fully described in a manner suitable for one of ordinary skill in the art. One of the applicants, Dr. Rappaport whose declaration under Rule 132 is being concurrently filed herewith, was able to discuss with the Examiner the level of skill of one of ordinary skill in the art, the type of text books and instruction one of ordinary skill in the art would have, and relate them to the relevant claims. At the interview, each of the steps in the claims were discussed and it was agreed, in particular, that prediction models would be well understood by those of skill in the art. This response and the concurrently filed declaration make the substance of the Interview of record in the case.

The application includes claims 33-77.

The sole issue remaining in the case is whether or not the application provides adequate enablement for the claimed invention under 35 USC 112, first paragraph. As will be discussed below, and as is demonstrated in the concurrently filed declaration of Dr. Rappaport, the application does provide sufficient enablement for one of ordinary skill in the art to make and use the invention, and the Examiner has erroneously suggested that certain essential information is not in the specification, and that it can only be found in prior applications which incorporate the information by reference. In making this rejection, the Examiner has misunderstood the level of skill of one of ordinary skill in the art, and failed to recognized that prediction models and their use are well recognized and have been in use for decades.

Regarding the Examiners' concern to whether the patent teaches one how to make or use prediction models, the inventors wish to point out that radio propagation prediction models for determining performance, etc. are well known

in the art, and have been used to predict signal strength, interference strength, signal to interference ratios, and other performance measures of a wireless system. There are many papers cited on page 3 and page 4 of the original specification, as well as other papers supplied on the IDS Filings which are of record in the case, the demonstrate that prediction models (including link budgets, noise figure, antenna pattern and gain, etc.) are well known in the art. These many references teach how to make and use propagation models, which generally depend on distances between transmitter and receiver, the type of physical environment, the particular antenna patterns used, and so on. The examiner should note that ever since H. Friis work at Bell Laboratories in the 1920's, engineers have been able to predict signal strength in a wireless system for signals that propagate in free space. Link budgets and noise figure calculations, all used to model or describe particular performance attributes of a communication component or communication system, have been used to determine power levels, voltage levels, signal to noise ratios, and noise levels throughout a network of interconnected components for at least 50 years.

More recently, within the past decade, as computer capabilities have improved, engineers and researchers have used ray tracing techniques and phenomenological models in predicting the performance in a wireless system, whereby the radio propagation between a transmitter antenna and a receiver antenna are impacted by radio waves interacting with the physical environment. All of these concepts are well known to one skilled in the art (and were well known at the time the application was filed), and are feasible in the current invention.

In summary, propagation models and link budget equations, as well as antenna patterns and noise figure calculations, are well known to be useful and often necessary in forming performance prediction models for specific components or a system of components and in predicting wireless system parameters. Depending on the particular fidelity or accuracy of the performance prediction, different models or attributes may be used, abstracted, or even ignored. These concepts are well known in the art, as explained in pages 3 and 4 of the

application, and are all treated throughout one of the inventors (T. S. Rappaport) classic textbook "Wireless Communications, Principals and Practice", published by Prentice Hall (See Chapters 1, 2, 4 5, 6, and the appendices, either 1st edition or 2nd edition). The foregoing discussion not meant to limit the invention, it should be clear that new models and performance predictions for new paramers could also be implemented by the present invention.

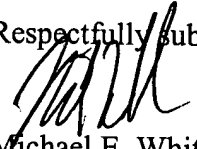
Concurrently filed herewith is a declaration of Dr. Rappaport attesting to the above. Further, the declaration includes a table substantially as was discussed at the interview of September 2, 2005, demonstrating that the patent application as originally filed provides enablement, within the meaning of 35 U.S.C. 112, first paragraph, to one of ordinary skill in the art.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 33-77 be allowed, and that the application be passed to issue:

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,


Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis & Christofferson, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190

Tel. (703) 787-9400
Fax. (703) 787-7557

Customer No.: 30743